

# SEQUENCE LISTING

<110> INSTITUT DE LA RECHERCHE POUR LE DEVELOPPEMENT (IRD)

<120> NOVEL AGENTS FOR THE PREVENTION OF LEISHMANIOSIS

<130> 1721-116

<140> 10/579,749

<141> 2006-05-18

<150> PCT/FR04/02955

<151> 2004-11-19

<150> FR 03 13 555

<151> 2003-11-19

<150> FR 04 07 010

<151> 2004-06-25

<160> 12

<170> PatentIn version 3.1

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<213> Leishmania amazonensis

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<213> Leishmania amazonensis

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<213> Leishmania amazonensis

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<213> *Leishmania amazonensis*

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<211> 371

<212> PRT

<213> *Leishmania amazonensis*

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Ala	Gly	Thr	Ser	Asp	Phe	Thr	Glu	Ala	Gln	Gln	Thr	Asn	Thr	Leu	Thr
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Val	Leu	Gln	Ala	Phe	Ala	Arg	Ala	Ile	Pro	Ala	Leu	Gly	Asp	Thr	Trp
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Thr Gly Ser Asp Phe Cys Ser Trp Lys His Ile Ile Cys Asp Ser Pro

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70

75

80

Gly Val Gly Val Trp Met Gly Asp Val Asp Tyr Thr Gly Thr Leu Pro  
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Glu Met Pro Ala Ser Val Asp Tyr Lys Asp Val Met Ile Thr Glu Leu  
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Asn Phe Ser Ala Met Gly Gln Gly Leu Ser Gly Thr Leu Pro Pro Ser  
115 120 125

Trp Ser Ser Leu Thr Ser Leu Ile Ser Leu Cys Ile Glu Lys Ser Glu  
130 135 140

Lys Val Thr Gly Thr Leu Pro Ala Gln Trp Ser Ser Met Thr Ser Leu  
145 150 155 160

Asp Asn Leu Asn Leu His Asp Thr Ala Val Ser Gly Thr Leu Pro Ala  
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Gln Trp Ser Ser Met Lys Gln Leu Thr Val Leu Asp Leu Glu Gly Thr  
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Lys Val Ser Gly Thr Leu Pro Ser Glu Trp Ser Gly Met Ala Lys Ala  
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Glu Ala Val Gln Leu Glu Asn Cys Gly Leu Ser Gly Ser Leu Pro Pro  
210 215 220

Ser Trp Ser Ala Met Pro Lys Leu Arg Ile Val Ser Leu Ser Gly Asn  
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His Phe Cys Gly Cys Val Pro Asp Ser Trp Arg Glu Lys Asp Arg Leu  
245 250 255

Asp Val Thr Ile Glu Glu Trp His Met Gly Glu Asp Cys Lys Leu Ala  
260 265 270

Asn Ala Cys Arg Pro Thr Ala Ala Pro Gly Thr Thr Thr Thr Asn Pro  
275 280 285

Pro Thr Thr Thr Gly Thr Pro Ala Ala Ser Ser Thr Pro Ser Pro Gly  
290 295 300

Ser Gly Cys Glu Val Asp Gly Cys Glu Val Cys Glu Gly Asp Ser Ala  
305 310 315 320



Ala Arg Cys Ala Arg Cys Arg Glu Gly Tyr Ser Leu Thr Asp Glu Lys  
325 330 335

Thr Cys Leu Ala Asn His Asp Gly Gly Val Ala Ala Ala Ser Ser Gly  
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Leu Val Ala  
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<213> Leishmania amazonensis

<400> 7

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35 40 45

Ser Leu Ile Ser Leu Cys Ile Glu Lys Ser Glu Lys Val Thr Gly Thr  
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Leu Pro Ala Gln Trp Ser Ser Met Thr Ser Leu Asp Asn Leu Asn Leu  
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His Asp Thr Ala Val Ser Gly Thr Leu Pro Ala Gln Trp Ser Ser Met  
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Lys Gln Leu Thr Val Leu Asp Leu Glu Gly Thr Lys Val Ser Gly Thr  
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Leu Pro Ser Glu Trp Ser Gly Met Ala Lys Ala Glu Ala Val Gln Leu  
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Glu Asn Cys Gly Leu Ser Gly Ser Leu Pro Pro Ser Trp Ser Ala Met  
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Pro Lys Leu Arg Ile Val Ser Leu Ser Gly Asn His Phe Cys Gly Cys  
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Val Pro Asp Ser Trp Arg Glu Lys Asp Arg Leu Asp Val Thr Ile Glu  
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Glu Trp His Met Gly Glu Asp Cys Lys Leu Ala Asn Ala Cys Arg Pro  
180 185 190

Thr Ala Ala Pro Gly Thr Thr Thr Thr Asn Pro Pro Thr Thr Thr Gly  
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Thr Pro Ala Ala Ser Ser Thr Pro Ser Pro Gly Ser Gly Cys Glu Val  
210 215 220

Asp Gly Cys Glu Val Cys Glu Gly Asp Ser Ala Ala Arg Cys Ala Arg  
225 230 235 240

Cys Arg Glu Gly Tyr Ser Leu Thr Asp Glu Lys Thr Cys Val Ala Asn  
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<211> 310

<212> PRT

<213> Leishmania amazonensis

<400> 8

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35 40 45

Ser Leu Met Ser Leu Trp Ile Glu Lys Ser Glu Lys Val Thr Gly Thr  
50 55 60

Leu Pro Thr Gln Trp Ser Ser Met Lys Gln Leu Thr Leu Leu His Leu  
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Lys Gly Thr Lys Val Ser Gly Thr Leu Pro Pro Glu Trp Ser Gly Met  
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Thr Ser Leu Asp Asp Leu Asn Leu His Asp Thr Ala Val Ser Gly Thr  
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Leu Pro Ala Gln Trp Ser Ser Met Lys Gln Leu Ile Asp Leu Asp Leu  
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Glu Gly Thr Lys Val Ser Gly Thr Leu Pro Pro Glu Trp Ser Gly Met  
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Ala Lys Ala Glu Ala Leu Gln Leu Lys Tyr Cys Asp Leu Ser Gly Ser  
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Leu Pro Pro Ser Trp Ser Ser Met Gln Lys Leu Arg Ile Val Ser Leu  
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Ser Gly Asn His Phe Cys Gly Cys Val Pro Asp Ser Trp Arg Glu Lys  
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Asp Arg Leu Asp Val Thr Ile Glu Glu Trp His Met Gly Glu Asp Cys  
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Lys Leu Ala Asn Ala Cys Arg Pro Thr Ala Ala Pro Gly Thr Thr Thr  
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Thr Asn Pro Pro Thr Thr Thr Gly Thr Pro Ala Ala Ser Ser Thr Pro  
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Asp Ser Ala Ala Arg Cys Ala Arg Cys Arg Glu Gly Tyr Ser Leu Thr  
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Asp Glu Lys Thr Cys Leu Ala Asn His Asp Gly Gly Val Ala Ala Ala

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280

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Ser Val Gly Leu Val Ala  
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&lt;211&gt; 307

&lt;212&gt; . PRT

&lt;213&gt; Leishmania amazonensis

&lt;400&gt; 9

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Arg Val Ala Pro Gly Gly Ala Arg Ser Ala Gly Gly Gly Ser Ser Val  
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Phe Leu Tyr Phe Ser Val Pro Cys Cys Pro Pro Lys Lys Lys Lys Lys  
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Glu Ala Leu Gln Leu Lys Tyr Cys Asp Leu Ser Gly Ser Leu Pro Pro  
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Ser Trp Ser Ser Met Gln Lys Leu Arg Ile Val Ser Leu Ser Gly Asn  
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His Phe Cys Gly Cys Val Pro Asp Ser Trp Arg Glu Lys Asp Arg Leu  
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Asp Val Thr Ile Glu Glu Trp His Met Gly Glu Asp Cys Lys Leu Ala  
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Pro Thr Thr Thr Gly Thr Pro Ala Ala Ser Ser Thr Pro Ser Pro Gly  
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Leu Val Ala  
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<211> 310

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<213> Leishmania amazonensis

<400> 10

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Val Asp Tyr Lys Asp Val Met Ile Thr Glu Leu Asn Phe Ser Ala Met  
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Gly Gln Gly Leu Ser Gly Thr Leu Pro Pro Ser Trp Ser Ser Leu Thr  
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Ser Leu Ile Ser Leu Cys Ile Glu Lys Ser Glu Lys Val Thr Gly Thr  
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Leu Pro Ala Gln Trp Ser Ser Met Thr Ser Leu Asp Asn Leu Asn Leu  
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His Asp Thr Ala Val Ser Gly Thr Leu Pro Pro Glu Trp Ser Gly Met  
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Thr Ser Leu Asp Asp Leu Asn Leu His Asp Thr Ala Val Ser Gly Thr  
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Leu Pro Ala Gln Trp Ser Ser Met Lys Gln Leu Ile Asp Leu Asp Leu  
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Glu Gly Thr Lys Val Ser Gly Thr Leu Pro Pro Glu Trp Ser Gly Met  
130 135 140

Ala Lys Ala Glu Ala Leu Gln Leu Lys Tyr Cys Asp Leu Ser Gly Ser  
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Leu Pro Pro Ser Trp Ser Ser Met Gln Lys Leu Arg Ile Val Ser Leu  
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Ser Gly Asn His Phe Cys Gly Cys Val Pro Asp Ser Trp Arg Glu Lys  
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Asp Arg Leu Asp Val Thr Ile Glu Glu Trp His Met Gly Glu Asp Cys  
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Lys Leu Ala Asn Ala Cys Arg Pro Thr Ala Ala Pro Gly Thr Thr Thr  
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Thr Asn Pro Pro Thr Thr Thr Gly Thr Pro Ala Ala Ser Ser Thr Pro  
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Ser Pro Gly Ser Gly Cys Glu Val Asp Gly Cys Glu Val Cys Glu Gly  
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Asp Ser Ala Ala Arg Cys Ala Arg Cys Arg Glu Gly Tyr Ser Leu Thr  
260 265 270

Asp Glu Lys Thr Cys Leu Ala Asn His Asp Gly Gly Val Ala Ala Ala  
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Ala Val Lys Asp Asp Phe Thr Ala Ala Gln Arg Thr Asn Thr Leu Ala  
35 40 45

Val Leu Glu Ala Phe Gly Arg Ala Ile Pro Glu Leu Gly Lys Leu Trp  
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Lys Gly Asp Asp Phe Cys Phe Trp Glu Ser Val Val Val Arg Cys Asp  
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Arg Ser Val Leu Gly Gly Lys Ser Val Arg Arg Ile Pro Ala Arg Cys  
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Arg Arg Cys Leu Trp Thr Ser Thr Thr Arg Pro Ser Trp Ser Ser Thr  
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Ser Thr Phe Pro Lys Trp Gly Trp Gly Trp Ala Glu Arg Cys Arg Thr  
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Cys Arg Cys Gly Leu Arg Val Val Lys Val Leu Pro Ala Ser Cys Arg  
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Leu Ser Gly Ala Arg Trp Asn Arg Trp Glu Ile Ser Ile Cys Met Ala  
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Arg Arg Phe Pro Ala Arg Cys Arg Leu Ser Gly Ala Arg Trp Asn Arg  
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Leu Ser Gly Ala Gln Trp Asn Pro Trp Pro Phe Ser Val Trp Met Ala  
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Arg Arg Phe Pro Ala Arg Cys His Pro Ser Gly Ala Arg Trp His Arg  
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Trp Ala Phe Ser Val Trp Arg Val Leu Ser Ser Pro Ala Arg Tyr Arg  
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Thr Gln Val Ser Gly Thr Leu Pro Pro Gln Trp Arg Ser Met Leu Asn  
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Ala Glu Phe Leu Gln Leu Glu Asn Cys Asp Leu Ser Gly Cys Leu Pro  
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Pro Glu Trp Ala Ala Met Pro Lys Leu Arg His Val Glu Leu Lys Gly  
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Leu Val Val Glu Ile Glu Asp Lys His Thr Gly Asn Ser Cys Ile Ala  
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Thr Ala Ser Pro Thr Ala Thr Pro Thr Ser Ala Pro Glu Thr Glu Cys  
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Ala Arg Cys Arg Glu Gly Tyr Phe Leu Thr Asp Glu Arg Thr Cys Leu  
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Val Tyr Arg Asp Gly Gly Val Val Ala Val Ser Ile Gly Ala Ala Ala  
435 440 445

Ala Ala Val Val Cys Met Ala Val Leu Leu Ser Val Gly Leu Ala Ala  
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